

WE CLAIM:

1. A process for making a biologically active substance, a fragment of a biologically active substance, a therapeutic agent, or a fragment of a therapeutic agent, free of a chlorotrityl chloride linker-resin, comprising:

reacting an activated amino acid or activated amino acid derivative with a substituted or unsubstituted trityl alcohol resin to obtain a resin-CT-AA product; and,

reacting said resin-CT-AA product with other building blocks of said biologically active substance, said therapeutic agent, or said fragments, to obtain said biologically active substance, said therapeutic agent, said fragment of said biologically active substance, or said fragment of said therapeutic agent.

2. The process of claim 1 in which said activated amino acid is selected from the group consisting of a protected amino acid chloride, a protected amino acid fluoride, a protected amino acid bromide, and a protected amino acid mixed anhydride, a protected amino acid activated ester, and Fmoc-amino acid chloride.

3. The process of claim 1 in which said substituted or unsubstituted trityl alcohol resin is selected from the group consisting of chlorotrityl alcohol resin, a substituted trityl alcohol resin with an alkoxy, a substituted trityl alcohol resin with a halogen, a substituted trityl alcohol with a substituted alkyl group, and a

substituted trityl alcohol with one or more groups bound to the aromatic rings of the trityl group .

4. The process of claim 3 in which said chlorotrityl alcohol resin is a 2'chlorotrityl alcohol resin.

5 5. The process of claim 1 further comprising cleaving one or more of said fragments, said biologically active substance, or said therapeutic agent.

6. The process of claim 1 further comprising recycling said resin.

7. A product created by the process of claim 1.

10 8. The product of claim 7 in which said biologically active substance or fragment thereof is selected from the group consisting of a fragment of T-20, T-20, a fragment of a T-20 like peptide, and a T-20 like peptide a fragment of T-1249, T-1249, a fragment of a T-1249 like peptide, and a T-1249 like peptide.

15 9. A process for making a substrate used to create a biologically active substance or therapeutic, comprising:
reacting an activated amino acid or derivative thereof with a substituted or unsubstituted trityl alcohol resin to obtain a resin-CT-AA product.

20 10. The process of claim 9 further comprising using said resin-CT-AA product to create a biologically active substance precursor, therapeutic precursor, said biologically active substance, or said therapeutic.

11. The process of claim 9 further comprising recycling said resin for use in a subsequent creation step.
12. The process of claim 1 in which said substituted or unsubstituted trityl alcohol resin comprises a low void space resin.